CURRENT LITERATURE
IN
AGRICULTURAL ENGINEERING

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ENGINEERING

WASHINGTON, D. C.

Vol. 5, No. 7. February, 1936

Agricultural Engineering.

Agricultural engineer faces the "farm problem." By L.F. Livingston. Agricultural Engineering. v.17, no.1. January, 1936. p.10-12.

Agricultural engineering job sheets. By E.P. Legrand. 2d edition. Midland, Ohio. 1935. 145p. Multigraphed.

Second International Congress of Rural Engineering, Madrid, 26, September to 3 October, 1935. Monthly Bulletin of Agricultural Science and Practice. v.26, no.12. December, 1935. p.556-561.

Agriculture.

Agriculture: A local activity and a national problem. By Henry A. Wallace. 1936. 19p. mimeographed. U.S. Department of Agriculture. Address at meeting sponsored by Indiana Farm Bureau at Indianapolis, Indiana. February 12, 1936.

Half an acre and independence. By H.H. Magee. Popular Mechanics. v.64, no.3. September, 1935. p.392-393, 119A. Plot 275 feet by seventy-five feet, will supply most of food for family of five!

New plan to create farm wealth. By Wheeler McMillen. Country Home. v. 59, no. 12. December, 1935. p.9-10, 31. Idea may be briefly stated: Instead of paying farmers for not growing particular commodities, government would pay farmers for producing commodities which we now import. It would pay farmers for growing soil-building crops such as legumes. It would pay farmers for efforts devoted to prevention of erosion and loss of irreplaceable soil. It would pay farmers for producing non-food crops for industrial uses, in place of acres now devoted to surplus crops.

Air Conditioning.

Another chapter in agriculture. By M.L. Wilson. 1936. 27p. Mimeographed. U.S. Department of Agriculture. Address delivered at the observance of Farmers' Week at the northwest school of agriculture, Crookston, Minn., February 4, 1936.

Comfort cooling with ice. By H.L. Lincoln. Ice and Refrigeration. v.90, no.2. February, 1936. p.131-132. Paper presented at Annual Convention of National Association of Ice Industries. Possibilities of comfort cooling as load builder for ice industry. Installation and design must be directed by technical man. Necessary training for promotional salesmen. Not reserved as activity for larger cities.

Air Conditioning. (Cont'd)

Edison Institute report gives data on air-conditioning operating cost. Electric Refrigeration News. v.17, no.2. January 8, 1936. p.14.

Farmers' own credit system. By W.I. Myers. 1935. 22p. Farm Credit Administration. Circular no. A-4.

How to figure air conditioning. Part III. By Harold M. Hendrickson. Refrigerating Engineering. v.31, no.1. January, 1936. p.30-35. VI. Surface cooling. VII. Evaporative cooling. VIII. Engineering for high altitudes. IX. Conclusions.

Room cooled by ice and fan in portable unit. Popular Mechanics. v.64, no.3. September, 1935. p.406. Has small motor and fan for forcing air over ice shelf and through nine partitions of "heat transfer element" at rate of 200 cubic feet per minute. Only 2 pounds of ice will start machine's cooling stream of air, this amount lasting one hour. Fins in cooler hold low temperature much longer, however. Any kind of ice may be used. Cost of electricity is less than one-fourth cent per hour. Machine weighs only twelve pounds and is sixteen inches long. It plugs into any convenient light socket.

Spot air conditioning. By Willard L. Morrison, Refrigerating Engineering. v.31, no.1. January, 1936. p.10-11.

Wet and dry bulb hygrometer. By J.H. Awbery and Ezer Griffiths. Cold Storage. v.38, no.452. November 21, 1935. p.259-260. Readings obtained at low temperatures.

Alcohol Fuel.

Power from potatoes. By O.A. Fitzgerald. Western Farm Life. v.37, no.11. November 15, 1935. p.9. Idaho scientist says cull "spuds" can be made into alcohol for 7 cents a gallon.

Associations.

Associations of manufacturers of lumber and wood products. 1935. 4p. Mimeographed. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

Second International Congress of Rural Engineering. By G.W. McCuen. Agricultural Engineering. v.17, no.1. January, 1936. p.29-30.

Barns.

Clean comfort for cows. By John S. Glass and E.D. Warner. Capper's Farmer. v.47, no.2. February, 1936. p.34. Gives floor plan.

Dairy barns that are clean and economical. By W.G. Kaiser. Farm and Ranch. v.54, no. 19. October 1, 1935. p.3, 9. Concrete floors make possible both of these important factors.

Flexible barn. By Henry Giese. Successful Farming. v.34, no.2. February, 1936. p.23, 38-39. Built to accommodate varying stores of feed and numbers of stock, this barn does away with heat-consuming waste space, and brings some rafter improvement features you'll like.

Old barn remodeled. By Newton C. Myers. Southern Agriculturist. v.65, no.12. December, 1935. p.29.

Building Construction.

Architectural concrete and its uses. By W.F. Lockhardt. Architectural Record. v.79, no.1. January, 1936. p.57-62. Table 1. Recommended water-cement ratios for concrete to meet different degrees of expansion. Table 2. Trial mixtures for various water-cement ratios.

Business and construction. Engineering News-Record. v.116, no.6. February 6, 1936. p.193-198. Steady upturn in business matched by increase in private construction that carried the year's total to 3.7 billion dollars, a gain of 19 per cent over 1934. Similar gain in 1936 likely as private industrial and residential building continue to improve.

Federal Home Loan Bank Board Review announces index of home construction costs. Domestic Commerce. v.17, no.2. January 20, 1936. p.37. It costs buyer of home nearly half again as much in one section of country as it does in another to build same identical one-family house. Figures cover only actual construction outlays and do not include home-mortgage financing costs, which vary widely in different sections. Basic data consists of prevailing unit prices of materials and labor, compiled throughout country, which includes architects and builders familiar with local construction practices. Items for overhead expense and contractor's profit are added.

Forms for architectural concrete. 1936. 64p. Portland Cement Association, Chicago, Ill.

How to build storm-proof. American Builder. v.58, no.1. January, 1936. p.52-53.

Indexes of small-house-building costs developed by the Federal Home Loan Bank Board. Federal Home Loan Bank Review. v.2, no.4. January, 1936. p.111-115.

Indexes of small-house-building costs. Federal Home Loan Bank Review. v.2, no.5. February, 1936. p.153-158. Purpose of Board's indexes is twofold: (1) To show trend of construction costs within each locality reporting. (2) To make possible comparisons between actual costs and between trends in different localities.

Precast concrete block construction. Architectural Record. v.79, no.1. January, 1936. p.63. Advantages: Unit carries own insulation in form of cells and Zonolite and asbestos aggregates;

Building Construction. (Cont'd)

center air space suitable for heating, plumbing and lighting conduits; finished block allows for nail and sawing, serves as natural plaster base; walls may be only spray-painted inside and out, plaster omitted; surface susceptible to sculptural treatment; unit may be handled easily by one man. Disadvantages: Because of bond with joist, units cannot be removed after building is finished; use of poured concrete definitely limits time of year during which construction can be properly undertaken; not suitable for traditional styles, since economies of wall construction tend to disappear in pitched roofs, ornament, etc.

Proposal for a home-building service plan. Federal Home Loan Bank Review. v.2, no.4. January, 1936. p.116-120. Aid that Board's technical staff could make available through 12 Federal Home Loan Banks to member institutions may be listed in brief outline. I. Explanation of service. II. Instructions for operating service, constituting Service Guide. III. Technical services. IV. Authentic information on any aspect of home building. V. Aid in selling service to home-owner borrower.

Re-equipment key to profits. American Builder and Building Age. v.58, no.2. February, 1936. p.42-43, 116. Survey shows possibilities in new power machines.

Chain gear.

Chain drives - their place in Southern industry. By Fred Wehle. Southern Power Journal. v.54, no.2. February, 1936. p.56-59.

Corrosion.

Action of dilute acids on aluminum. By Charles F. Poe, R.M. Warnock and A.P. Wyss. Industrial & Engineering Chemistry. v.27, no.12. December, 1935. p.1505-1507.

Cotton and Cotton Ginning.

Cotton ginning. By Charles A. Bennett. Nebraska Blue Print. v.35, no.4. January, 1936. p.56-57, 59.

Iron fingers pick cotton without hurting plant. Popular Mechanics. v.64, no.3. September, 1935. p.406. Revolving fingers of iron on mechanical cotton picker go over plant and harvest cotton without injuring foliage or stem. Drawn by horse or tractor. As it moves along row, power transmitted by belt from two wheels keeps a dozen slats moving backward on each side of plant. Six picker arms, with tiny revolving points that collect cotton from open bolls, are mounted on each slat. Backward motion of slats equals forward motion of wheels, thus preventing any tearing of plant. As arms travel around back and past wheels on each side they reach conveyor, revolving points reverse direction and drop cotton which is carried up and dumped into detachable basket behind driver's seat.

Cotton and Cotton Ginning.

Progress in the study of the mechanical harvesting of cotton. By H.P. Smith and others. 1935. 35p. Texas. Agricultural experiment station. Bulletin no. 511. Reports results of harvesting trials with roll-type stripper sled, using different kinds and sizes of stripping rolls operated at different angles and speeds.

Ribless and multi-cylinder gins. By Charles A. Bennett. Cotton Ginners' Journal. v.7, no.5. February, 1936. p.3-5.

Dams.

Dams and hydraulics. By J.L. Savage. Engineering News-Record. v.116, no.6. February 6, 1936. p.200-202.

Diesel Engines.

Diesel engines on farms. By C.I. Gunness. New England Homestead. v.108, no. 25. December 7, 1935. p.7. Ordinary 40-horsepower gasoline or kerosene engine consumes about 32 gallons of fuel in eight hours of operation at full load. Diesel engine of equal power will use about 23 gallons of fuel during same time. If gasoline engine is bought at 12 cents a gallon and fuel oil at 6½ cents, fuel cost for gasoline engine would be $3.85 per day, and that for Diesel engine would be $1.50 per day.

Electric Service, Rural

Facing facts of farm electric service. By J.D. Noyes. Agricultural Engineering. v.17, no.1. p.21-22, 28.

New rural line mileage 35,000 in 1936. Electrical World. v.106, no.1. January 4, 1936. p.76-77. Much exaggerated idea of farm electrification prevails both as to its practical aspects and its business possibilities for electrical industry.

Electric Wiring.

Farm structures planned for electric wiring and appliances. By H.B. White. Agricultural Engineering. v.17, no.1. January, 1936. p.17-19.

Improved non-metallic sheathed wiring installation for rural buildings. By V.M. Murray and L.C. Larson. Agricultural Engineering. v.17, no.1. January, 1936. p.23-27. Summary: Essential requirements of good wiring system for rural buildings, particularly barns housing livestock, are as follows: 1. Conductors must have adequate protection against mechanical injury. 2. Shock hazard to persons and livestock should be eliminated. 3. Purchaser of system should receive lasting or long-life installation - a system then, which will resist corrosive elements present in barns.

Electric Wiring. (Cont'd)

4. Initial and annual costs should compete with other permanent wiring systems. 5. Fire hazard should be reduced to minimum consistent with above four requirements.

Electricity on the Farm.

Electrified farms. Farm Implement News. v.57, no.2. January 16, 1936. p.20. Increase of approximately 175% in number of American farms electrified during 1935, compared with previous year, is announced by Morris L. Cooke, Administrator of Rural Electrification. It is estimated on basis of figures submitted in REA by private utility industry, that in 1935 electric service was extended to approximately 83,000 farms, compared with 30,396 in 1934. This brings total of farms having central station electric service to approximately 827,000 out of total of more than 6,800,000 farms in country.

Electricity on the farm. By Carlyle Hodgkin. Nebraska Farmer. v.78, no.3. February 1, 1936. p.14, 23.

Layers thrive under light. By Ivy M. Howard. Successful Farming. v.34, no.2. February, 1936. p.18, 70-71. Results of five-year experiment, just closed, show that continuous light shifts peak production where it is most needed, and does not injure health of layers.

New Hampshire's great white way. By George M. Putnam. Nation's Agriculture. v.11, no.4. January, 1936. p. 14, 23. Describes what rural electrification means to state. In 1924 only 11.4 per cent of rural homes of state had electric power. During ten years from 1924 to 1934, 50 per cent of farm homes in Granite State added high-line electric service to their conveniences. Today New Hampshire leads states of nation in percentage of electrically equipped rural homes, with 63.5 per cent of rural homes being thus served.

Erosion Control.

C.C.C. in soil conservation. By Robert Fechner. Soil Conservation. v.1, no.6. January, 1936. p. 1-4. 501 camps under Soil Conservation Service expect to treat in next twelve months, more than 6,000,000 acres of farm lands now suffering soil losses from water or wind erosion or both. In this expanded area, they plan to build more than five times as many check dams and other gully-control structures as were built during the last twelve months. Total of 348,808 dams were constructed during past year. Plans include construction of more than 1,800,000 check dams in 39 states in which camps will operate. These gully-control structures are to be supplemented by more than 1,500,000,000 square yards of seeding and sodding and 120,000 square yards of bank sloping.

Cures for soil blowing. By M.N. Beeler. Capper's Farmer. v.47, no.2. February, 1936. p.8-9.

Erosion Control. (Cont'd)

Curing sick land. By M.E. Musgrave. Farm and Ranch. v.54, no.21. November 1, 1935. p.1, 3. Water that has been allowed to run rampant and rob soil is being controlled and turned to constructive use.

Cyclic and non-cyclic aspects of erosion. By Nevin M. Fenneman. Science. v.83, no. 2144. January 31, 1936. p.87-94.

Engineering strategy in a wind-erosion area. By L.C. Tschudy. Soil Conservation. v.1, no.6. January, 1936. p.12-13. Field engineering classifies as (1) leveling fields and preparing them for crops. (2) Level terracing for retention of water, and (3) small dam construction.

Erosion control a national fight. By C.E. Gapen. Progressive Farmer. v.51, no.2. February, 1936. p.10, 54. S C S program is reaching farms in every state.

Indiana soil conservation program. By J.F. Benham. Purdue Agriculturist. v.30, no. 4. January, 1936. p.40-41, 40, 50. Future plans for soil conservation in Indiana involve further study, continued establishment of demonstrations on farms, and educating in hope that eventually all land in Indiana may be handled in manner calculated to preserve soil resources for future generations.

Modified soil control proposed for rolled-fill dam construction. By Frank B. Campbell. Engineering News-Record. v.116, no.5. January 30, 1936. p. 158-159. Experience with Proctor method of soil control on Sutherland Reservoir indicates some desirable changes to speed work without loss of efficiency.

Soil erosion service begins silt and erosion studies. Engineering News-Record. v.116, no.3. January 16, 1936. p.108. To provide fundamental data on relation of soil erosion to silting of reservoirs, Soil Conservation Service is beginning series of surveys on watersheds lying above nine reservoirs in Virginia, North Carolina, South Carolina, Georgia, Missouri, Arkansas and Oklahoma. At later date surveys will be made in Texas and California. Object is to determine how serious soil erosion is in watersheds, so that this information can be correlated directly with measurements on extent and rate of silting in these particular reservoirs.

Windgaps and watergaps; their value as indicators of erosion surfaces. By Karl Ver Steeg. American Journal of Science. v.30, no.176. August, 1935. p.98-105.

Fans, Mechanical

Drive fixes fan type. - I. By M.S. Kice, jr. Power. v.80, no.1. January, 1936. p.18-19. Assuming fan is correctly proportioned, rated, designed and built, following facts have been found to be true:

Fans, Mechanical (Cont'd)

1. Aside from mechanical consideration, any of common fans such as backward, radial, forward radial-tip-blade types are suitable for induced-draft work when built either double-inlet with inlet boxes, or single-inlet with or without boxes. 2. Any of these types of fans can be operated in parallel, without causing hunting, surging, and without damaging motor even though that motor is selected without any great factor of safety as to horsepower. 3. Main considerations in what type is selected for given job are these: kind of drive used - steam turbine or engine or electric motor; static pressure and gas temperature.

Farm Buildings and Equipment.

Pen barn and separate milking room. By H.F. McColly and J.R. Dice. 1935. 26p. North Dakota. Agricultural Experiment Station. Bulletin no. 283.

Safe bull pen. By Otto J. Hill and J.C. Knott. 1935. 7p. Washington state college. Extension service. Extension bulletin no.210.

Farm Machinery and Equipment.

Better machinery, easier to operate. By S.H. McCrory. Progressive Farmer. v.51, no.2. February, 1936. p.14, 58.

Care and repair of the mowing machine. By A.J. Bell. 1935. 14p. Michigan state college of agriculture and applied science. Extension division. Extension bulletin no. 153.

Developing machinery for harvesting buffalo grass seed. Part II. By Guy C. Fuller. Soil Conservation. v.1, no.6. January,1936. p. 8-10, 13-14. Conclusions: 1. Buffalo grass seed may be gathered with vacuum machine. 2. Machines of this design will harvest from 50 to 60 per cent of seed under average conditions, and will not damage pastures. 3. For best results, pastures moderately to heavily grazed must be selected from which to harvest seed. Chain drag used on pastures of this nature will slightly increase amount of seed obtained. 4. Mowing pastures will not be feasible because of added expense and lack of available pastures where mowing would be permitted even at rental prices. 5. Efficiency of machine will be determined by density of turf, and how securely seeds are imbedded in soil.

Down machinery row in 1936. By J. Brownlee Davidson. Successful Farming. v.34, no.2. February, 1936. p.14-15.

Farming by magic. By Charles Morrow Wilson. Popular Mechanics. v.64, no.3. September, 1935. p.340-343, 132A, 133A, 135A.

Idaho college engineers report tests on new A-C combine. By E.N. Humphrey. Implement Record. v.33, no.2. February, 1936. p.19.

Farm Machinery & Equipment.(Cont'd)

Measurement of forces on soil tillage tools. By A.W. Clyde. Agricultural Engineering. v.17, no.1. January, 1936. p.5-9. To supply basic information as to forces being dealt with, Pennsylvania Agricultural Experiment Station is studying soil resistance encountered by tillage tools and relation of this force to other forces on tools. Object is to get information for engineering design on (1) mechanical strength and rigidity, (2) best location for pulling force, and (3) effect of different shapes and angles of tools. Conclusions: 1. Knowledge of position, direction, and magnitude of useful soil force on tillage tool under conditions varying from easy to hard is important, because it is a large part of total soil reaction on complete implement. 2. Such knowledge is useful as aid to judgment in designing for strength, for applying pulling force to best advantage, and for selecting best shape of tool for certain kind or degree of tillage. 3. Two methods, pulling method and tillage meter method, are explained with some mention of important details in their use in locating and measuring soil forces. 4. For sharp chisel-shaped tools, such as cultivator shovels and plows without rolling coulters, useful soil force usually has considerable downward component. 5. Soil force on 18-inch disk as used in disk harrows is usually as much or more than longitudinal force.

New combine saved crops. By Hugh M. Morton. Capper's Farmer. v.47, no.2. February, 1936. p.12.

Pasture furrows hold water. Western Farm Life. v.37, no.12. December 15, 1935. p.8. U-knife slices furrow some 4 inches deep; curved rods guide severed strip upward and to side where sod is neatly deposited grass side up. Roller then packs it firmly in place.

Plains farmer makes damming lister. By B.W. Allred. Western Farm Life. v.37, no.12. December 15, 1935. p.12. Lists five parallel furrows at a time with mechanically-controlled set of rear attached shovels which constructed perfect furrow-dams every five to sixteen feet. When applied to land this remarkable furrowing and damming had three times during past growing season held 225,000 gallons of torrential rainfall per quarter section without a drop running off field. Machine somewhat resembles beet cultivator set up well on wheels with five 20-inch spaced plow points on the idea of lister points, except narrower. Few feet behind each plow point was automatic attachment which dragged sufficient loose dirt 16 feet to form very neat dam when tripped.

Floods and Flood Control.

Meeting the menace of overflow waters. By Henry M. Eakin. Soil Conservation. v.1, no.6. January, 1936. p.5-6. Comprehensive flood control includes not only simple confinement and guidance of waters but control of erosion and transportation and redistribution of sediment as well. Under such composite practice aims of river improvement can well look to economic extension of flood control over nation as a whole, more real and permanent security of lands already temporarily benefitted, and gradual recovery and improvement of lands now condemned to damaging overflow.

Floods and Flood Control. (Cont'd)

Mississippi River flood control. Engineering News-Record. v.116, no.5. January 30, 1936. p.172. Provision for diversion of 1,000,000 sec.-ft. held by General Markham as necessary for adequate flood safety.

Floors.

Low-cost floor of reinforced tile. By Henry Giese and C.T. Bridgeman. Agricultural Engineering. v.17, no.1. January, 1936. p.14-16. Result of cooperative research by Iowa Agricultural Experiment Station and Clay Products Institute of Des Moines, Iowa, relating to improved use of clay products in farm-building construction, new type of floor construction using combination clay tile, concrete, and steel has been developed. Advantages: 1. Material used being non-combustible, it will not support fire, and should offer considerable of fire resistance. 2. Laboratory tests and experience on actual construction have shown it to have ample strength and stiffness for satisfactory construction. 3. Floor is easily constructed, and with supervision there should be no question as to reliable performance. 4. Cost is low. 5. Design is flexible to meet widely varying loading conditions.

Flow of Water and Gases.

Comprehensive diagram of Williams and Hazen pipe-discharge formula. By Allan T. Ricketts. Civil Engineering. v.6, no.2. February, 1936. p.110-112.

Heat Transmission.

Rational analysis of heat transfer in air-cooled walls. By R.P. Kolb. Southern Power Journal. v.54, no.2. February, 1936. p.39-42. Discusses what factors are involved in transmission of heat energy in air-cooled walls, what are mechanics of this transmission, and what temperature relations may be expected.

Hotbeds.

Hotbed is a first step in insuring an early garden. Washington Farmer. v.61, no.2. January 23, 1936. p.3, 29. Diagram illustrating arrangement of electric hotbed, including heating cable and regular thermostat. Drawing gives idea of construction of manure pit hotbed.

Wires heat his hotbed. By R.U. Blasingame. Capper's Farmer. v.47, no.2. February, 1936. p.26.

Houses.

Low cost farm homes from small logs. By S.A. Witzel. Agricultural Engineering. v.17, no.1. January, 1936. p.20, 40. Discussion of double ripped-log construction.

Purdue begins housing experiments. Architectural Record. v.79, no.1. January, 1936. p.64-65. Research in housing is actively under way by Housing Research Foundation at Purdue University. Houses costing less than $5,000 are being built and studied with object of finding way to meet demand for adequate low-cost house for average American family.

So you're going to build a new home! By Eugene Raskin. Better Homes and Gardens. v.14, no.1. September, 1935. p.26-27, 46-49. Foundations. Walls. Doors and windows. Roof.

Insect Control.

Insect traps benefit agriculture. Electrical World. v.106, no.2. January 18, 1936. p.57. Investigations conducted at University of California on insect control by means of electrocuting traps promise increasing relief for farmer from losses due to pest infestation of his crops. Experience indicates that various colored lights used to attract different species of insects to traps greatly add to efficacy of this method of control. Utilities in rural areas are giving greater attention to familiarizing farmers with possibilities of these insect traps. While insect trap is not a particularly good energy-consuming device, particularly those equipped with gaseous lights, it has proved splendid means of convincing farmer of value of electric service on farm.

New developments in mechanical equipment to control insect pests and plant diseases. By R.M. Merrill. Agricultural Engineering. v.17, no.1. January, 1936. p.13, 16. Purpose of paper is to present very briefly some of most recent developments in mechanical methods of pest control, which should be of interest to agricultural engineers.

Insulation.

Mineral wool and vermiculite as insulation. By John A. Schaeffer. Industrial & Engineering Chemistry. v.27, no. 11. November, 1935. p.1298-1303. Relationship of thermal insulation to air-conditioning is discussed. Contributions of newer type of insulating materials (developed during past five years) to better art of living are shown. Characteristics of various insulation materials for both domestic and industrial insulating purposes are described and their physical properties compared.

Irrigation.

Irrigation experiments with wheat. By A.T. Bartel and Charles Hobart. 1935. 355-388 p. Arizona. Agricultural Experiment Station. Bulletin no.151.

Kitchens.

Planning more efficient kitchens. By Irving W. Clark. American Builder. v.58, no.1. January, 1936. p.44-45. Engineered kitchen arrangements solve problems of properly locating operating centers.

Land.

Conservation of our land resources. By Jacob G. Lipman. Science. v.83, no.2143. January 24, 1936. p.65-69.

Factors affecting farm land values in Missouri. (From an appraisal viewpoint.) By Conrad H. Hammar. 1935. 62p. Missouri. Agricultural Experiment Station. Research bulletin no. 229.

Land. (Cont'd)

Good use of farm land in Missouri. By W.C. Etheridge. 1935. 8p. Missouri. College of Agriculture. Agricultural Extension Service. Circular no. 332.

Progress in rural land classification in the United States. By Charles Goose. 1935. 24p. Mimeographed. Resettlement Administration, Washington, D.C.

Lubrication.

American lubricating greases. By James I. Clower. 1935. 80p. Virginia. Engineering Experiment Station. Bulletin no. 35.

Lubrication of methyl chloride compressors. By E.W. McGovern. Refrigerating Engineering. v.31, no.1. January, 1936. p.20-24, 52. With notes on behavior of oil in several systems.

Production of lubricating oils. By Eugene R. Smoley and Wheaton W. Kraft. Industrial & Engineering Chemistry. v.27, no.12. December, 1935. p.1418-1422. Various methods for separating water and solvent are discussed.

Maps.

National mapping plan of National Resources Board. By William Bowie. Science. v.83, no. 2144. January 31, 1936. p.94-95.

No maps in a mapping age. By William Bowie. Civil Engineering. v.6, no.2. February, 1936. p.88-90. Conservation and utilization of vast potential wealth is accordingly crippled.

Miscellaneous.

Method of harvesting samples of pasture forage. By W.B. Nevens and A. F. Kuhlman. Journal of Dairy Science. v.18, no.12. December, 1935. p.793-794. Simple device for use in harvesting of small samples of pasture forage was made from strap iron $1\frac{1}{4}$ inches in width and 3/16ths inch in thickness. Iron was shaped into rectangular frame 20.79 inches by 20.79 inches inside measurement. Separate bar of same material fits loosely over frame. Ends of bar turn downward to keep it in place. Area enclosed by frame is 3 square feet. Method accomplishes several purposes; rigidly-defined area is harvested; position of frame does not change during collection of sample because of weight of device; forage is cut without scattering sample, an accomplishment which is difficult when hand sickle is used; forage is cut at uniform height from ground; sample is of convenient size for drying.

Present guides for household buying. By Ruth O'Brien and Medora M. Ward. 1936. 36p. U.S. Department of Agriculture. Miscellaneous Publication no. 193.

Miscellaneous. (Cont'd)

Standard quality maintained by statistical methods. By John Gaillard. Industrial Standardization and Commercial Standards Monthly. v.7, no.2. February, 1936. p.37-40. Review of new British book showing how engineers can use statistical methods in analyzing causes of defects in manufactured products to maintain control of quality. Methods of compiling statistics, and control charts for analyzing results, are explained

Ten facts on technology and employment. 1936. 9p. Machinery and Allied Products. Institute, Chicago, Ill. Statistical proof of the contribution of machinery to the creation of employment and higher standard of living.

Poultry Houses and Equipment.

Missouri poultry house. By H.L. Kempster. 1936. 8p. Missouri. College of Agriculture. Agricultural extension service. Circular no. 334.

Small electric incubators. Rural Electrification and Electro-Farming. v.11, no. 128. January, 1936. p.253-254. Some practical notes on electric incubators for the smaller poultry farmer, which will be of value to those who are still using oil heated units.

Your chickens need a dry laying house. By C.H. Jefferson. Michigan Farmer. v.186, no.1. January 4, 1936. p.5, 21.

Power.

Utilization and cost of power of Mississippi and Arkansas delta plantations. By L.A. Reynoldson, W.R. Humphries, S.R. Speelman and E. W. McComas. 1935. 47p. U.S. Department of Agriculture. Technical Bulletin no. 497.

Power Farming.

Economics of power farming. By R.T. Proctor. British Sugar Beet Review. v.9, no.5. January, 1936. p.37-38, 148. Gives useful suggestions for improvements to existing power machinery for agricultural purposes, such as installation of independent engine on horse-drawn binders, similar to those on spraying machines, to reduce horses' work and eliminate danger of wheel slip during wet weather. He also proposed that canvas used on binders might be replaced by some kind of flexible metal.

Pumps and Pumping.

Why does a pump, pump? Domestic Engineering. v.147, no.1. January, 1936. p.65-66, 86. Practical information on designing water systems.

Rain and Rainfall.

Indications of precipitation for 1935-36 season; temperatures for three months. By George F. McEwen. California Citrograph. v.21, no.2. December, 1935. p.38, 50.

Secular variation of rainfall; Analysis of the fluctuations of annual rainfall. By W.R. Baldwin-Wiseman. 1935. 427-432p. Reprinted from Quarterly Journal of the Royal Meteorological Society, October, 1935.

Reforestation.

Artificial reforestation in the southern pine region. By Philip C. Wakeley. 1935. 115p. U.S. Department of Agriculture. Technical bulletin no. 492.

Timber growing and logging practice in the southwest and in the Black Hills region. By G.A. Pearson, and R.E. Marsh. 1935. 80p. U.S. Department of Agriculture. Technical bulletin no. 480.

Refrigeration.

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Central Valley water project. By Jack Klein. California Cultivator. v.83, no.25. December 7, 1935. p.733, 740. Main object of project is to prevent loss of enormous amounts of water which flow down from Sacramento and San Joaquin rivers during seasons when rain falls or when snow pack of high mountains melts too rapidly. Very often surplus water is of sufficient volume to cause disastrous floods in some sections, but chief economic problem is to keep this water from being wasted by conveying it to sections where it is very badly needed, particularly in lower San Joaquin valley.

Report on progress conference on water conservation, Los Angeles, Calif., March 13-14, 1935. By Committee on conservation of water, Irrigation division, American society of civil engineers. 1935. 102p. American Society of Civil Engineers. New York.

Wood.

Green pine poles treated in field. By E.C. Thompson. Electrical World. v.106, no.5. February 1, 1936. p. 25, 66. Simple method of treating pine timber to prevent insect damage and decay, Trial data on process.

Minimizing wood shrinkage and swelling. By Alfred J. Stamm and L.A. Hansen. Industrial & Engineering Chemistry. v.27, no. 12. December, 1935. p.1480-1484. Replacing water in wood with non-volatile materials.

Preservatives and antitermite protection of timber. By C. Demerc. Industrial & Engineering Chemistry. v.27, no. 11. November, 1935. p. 1303-1305. Some new wood preservatives and new method of applying these preservatives to wood have resulted from recent research and development work. These new preservatives are designed to meet requirements of those phases of building which are not satisfactorily served by other preservatives and methods of application. This brief summary has not attempted detailed treatment of numerous considerations involved in development of improved wood preservatives, but has endeavored to show what one group of investigators is doing to solve problems involved.

Wood. (Cont'd)

Soft wood is made hard by resin treatment. Popular Mechanics. v.64, no. 3. September, 1935. p.390. Wood is first maintained in vacuum and then submerged in synthetic liquid resin of phenol and formaldehyde condensation type. Pressure of several atmospheres is introduced, and afterward wood is cured for 100 hours at 200 degrees Fahrenheit. Manufacturers say process assures absolute uniformity of resin distribution throughout wood. Surface is hardened, taking lacquer and varnish readily and obviating any primer coat. If high gloss is desired, second resin application gives durable finish bringing out natural grain. Wood doubly coated can be submerged in water six weeks before reaching normal moisture content, eight per cent.

Where, why and how to use treated lumber in home building and general construction. American Builder and Building Age. v.58, no.2. February, 1936. p.78-79, 116.